

1866-4-3

For
[Please return the
manuscript
to Dr. Harkshorn
1751 Walnut St.]

Introductory Lecture
To Course On
Hygiene,
And Faculty of Medicine
University of Penna.
April 3^d 1866.

By
Henry Harkshorn M.D.

Having now not given for several
courses, more than a brief abstract of those histor-
ical & other more general considerations which
may ^{very} fitly begin a series of lectures such as
this is intended to, I propose to day to commence
with these; making this lecture ^{mostly} introductory to the course.

Please return
this manuscript.
H. H.

Introductory Lecture.

Without any intent to arro-
gate ^{more than belongs to it} ~~too much~~ to the department
of Hygiene, ~~it is not~~
~~to say~~, ~~with you~~, — it appears to me
not too much to say, that it is ^{hardly} second
in intrinsic importance to ~~more~~ ^{any} of those
~~taught~~ ^{in this University} ~~taught~~ ~~in these walls~~. If pre-
vention is always better than cure,
if the enjoyment and strength of life
depends not only on rescue from dan-
gerous diseases, but also on the possession
of vigorous health; — and, if a large
part of sound practical therapeutics
consists in measures ^{rather} ~~more~~ hygienic than



medicinal, ^{as I believe, then} I think ~~the~~ proposition (2)
is sustained. Should more be wanting
to enforce it, - it may be found in the
relation of Sanitary Science, public
hygiene, to the vitality and mortality
of communities. Sanitary science is, essenti-
ally, State Medicine. There is no other
therapeutics for masses of men. And, when
we compare results, involving large numbers
of human beings, - does not Preventive Medi-
cine exhibit triumphs ~~more~~ greater than
those of Curative Practice? I have no wish
whatsoever to depreciate these. I rejoice in
them all. But, look at the facts.

In Constantinople, in ^{the year} 543 of our era,
10,000 people, for a time, died daily of plague.
In 8 years from 1345, plague destroyed in all,
in various places, about half of the then existing

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population of the globe. In 1665, 3
68000 died from the same disease, in the
city of London alone.

Now, - from hygienic measures, there is no reason to doubt, - from the application of sanitary principles, it has come, that plague has been banished from Europe, and almost extinguished in the East.

Severe epidemics of Cholera have a mortality of 50, or more, per cent. The power of medicine to reduce this has, as yet, been small. But, it is considered that the city of Baltimore was saved from the visitation of this scourge, in 1849 and 1854, by timely precautions taken by its authorities, favored by local facilities for them in its site; and ~~and~~ in Great Britain and France, in New York & Philadelphia & elsewhere in this country, sanitary measures made a very large difference in the visitations of Cholera. *

Yellow fever has, at some times, the mortality of this, notwithstanding Cholera, the loss of life in Philadelphia, was several hundred less than New York, because of preventive measures.

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the old portion of the village, the new
parts continued ^{to be} ~~entirely~~ free from it.

The remarkable cures of goitre and
disgusting cretinism ~~obtained~~ ~~affected~~ in Switzer-
land (by Dr Enggenbühl) ~~illustrate the~~
through ^{the} simple removal of those affected to
high and salubrious localities, illustrate
the same point.

So does the account cited by Dr Combe
of the Island of St. Kilda. In 1838,
of every ten children of ~~the~~ inhabitants, eight
died between the eighth and twelfth days
of their existence. Yet a clergyman resident
there had at the same time a family of 4
children, in good health. What made the
difference? His house was constructed and
managed as a house ought to be, while
the huts of the natives were small, low-
roofed, without windows, and used in winter

as receptacles of manure, laid out
upon the floors and trodden under foot
to a depth of several feet. ^{In 9 towns in England, within a few years, im-} But ^{proved drainage has lowered the annual death-rate 20 per-cent.}
need not multiply these examples; in
which all sanitary records abound. I
wish to add only one, which has great significance.
Dr Southwood Smith asserts that, in a well
marked instance, involving a number of families,
intemperance, hopeless to all appearance in a
low, insalubrious quarter of London, became
curable, - yielded to reform, under effort, when
the subjects of it were transferred to an open,
healthful and comfortable locality. Our bodies and
our spirits are held fast in close companionship.
To raise the one is to help the other. Past all
doubt, sanitary improvement promotes domestic
~~and~~ social ^{and} moral reform. The Board of Health
is a good handmaid or helpmeet for the
Board of Missions. Bread in the one hand and
the Bible in the other, will do more for the feeble,
suffering and degraded poor, than two Bibles and no bread.

and neglected of man, but
upon the floor and the wall
to a light of human feet. But
need not multiply these examples,
which all humanity records abundantly.
And to tell only one of the great suffering
of human kind, it is a well
known instance, among a number of families,
in England, Ireland, & all other parts
of the world, that of our own, because
unable - unable to reform, under effort, who
the subject of it were transferred to a
different and comfortable society. On this and
on points we will not be so copious.
To come to one to help the other. But all
about, humanity is suffering from the want
of moral, moral reform. The Board of Missions
is a good body, and a different for the
Board of Missions. There is the one body
the other is the other, and the one for the family
suffering and neglected from the neglect of the world.

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Let us glance ^{now,} for a few moments,
at the History of our Subject. Hygiene
as an Art, is older than Therapeutics;
as the avoidance of disease must have
been, from instinct as well as intelligence,
an object sought, before the discovery of
means for its medicinal relief. First Hy-
giene, then Surgery, then Medicine; was the
and ~~parade~~, ~~is~~ ~~now~~ ~~of~~ ~~a~~ ~~man~~
~~ments~~ occurring among the contestants in
their exercises.

But, farther back than this, some
recognition of hygienic principles may be
traced, in the ~~cradle~~ ~~of~~ ~~the~~ ~~most~~ ~~potent~~ ~~civilization~~ ~~of~~ ~~antiquity~~; in
the most potent civilization of antiquity; in
Egypt. In the great pyramid of Cheops
is an arrangement evidently intended for the
ventilation of its dark interior chambers.
The embalming of bodies of the dead, not only

18th March 1841

My dear Sir
I have the honor to acknowledge the receipt of your letter of the 14th inst. in relation to the matter of the
of the 14th inst. and in reply to inform you that the same has been forwarded to the proper authorities for their consideration.
I am, Sir, very respectfully,
Your obedient servant,
J. H. [Signature]

of men but of animals, however it (6)
may have been associated with super-
stitious beliefs, is so well adapted to the
prevention of insalubrity in a populous land
with a tropical climate, so to make it
likely that it sprang in great part from
the preventive wisdom of the priests.

~~The ancient Egyptians, as the fifty
marked, physical development was very highly
cultured.~~

Neither is it irreverent, nor a dispar-
agement of the divine authenticity of the Mosaic
~~or Levitical law~~ ^{law}, in whose ritualism so much
reminds us of Egypt as it was in the days
of the construction and inscription of its monuments,
to suppose that some things were retained
in that ^{Levitical code} ~~law~~ of what was known and practised
in the land of bondage before the Exodus.
No doubt, however, Moses greatly extended the
provisions required for health among his people.

His regulations ^{concerning} ~~was~~ food, abstinences, (7
and other purifications, and sequestration
of persons with certain diseases, were
imperative and precise. I will not
detain you with examples, from so familiar
and accessible a document.

In ancient Greece, as I have intro-
-mated, physical culture was most highly
esteemed. Socrates was, in person, a match
for more than one, — not only in philosophic
disputation, but as a soldier on the field.
Plato was a superior athlete, as well as
the most divine of sages; and Alcibiades
and Pericles were as swift of foot and
strong of arm as they were eloquent of
tongue and keen in state-craft or bold in
war. It is on good authority that I state

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(8)

the opinion, that the ~~wonderful~~
amazing intellectual supremacy of
the men of Athens and other parts of
Greece, from Homer to its decadence,
was, in no small part, owing to the
abundant care always maintained of the
development of the whole organization,
brain and body together, — "mens sana
in corpore sano." In Sparta a barbaric
ruthlessness induced the custom of ~~abandoning~~
exposing infants to the rude elements,
so as to allow only ~~of~~ those whose ^{bodies} had
vigor enough to be thus hardened, to live;
the ~~wake~~ feeble ones being destroyed by it.
In most of the cities of ancient Greece,
public baths existed, for both the rich and
the poor. Gratuitous attendance too, of the
poor, for prevention as well as cure of dis-
-ease, by arch-iaters appointed publicly

^{Democedes was one of the earliest of these.}
for the purpose, prevailed. This custom
was afterwards imitated in Rome; and,
later, in Germany;—where the Meister Arzt
of the 15th century, and the Stadt-Arzt
and Kreis-physicians of later dates, had
a similar place.

The Goddess of Health, Hygieia, of
the Greeks, was the daughter of Asclepius,
God of Medicine. Her name was mentioned
with other deities, in the Hippocratic oath;
which every loyal physician was required
to take, as one of the Asclepiads; "By
Apollo, the physician, by Asclepius, by
Hygieia, Panacea, and all the Gods and
Goddesses."

Of early writers upon Hygiene
in Greece, we have Hippocrates himself,
the first, — in his work on "Air, Waters and
Places"; a treatise in which the influence

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of climate and locality, not (10)
only upon health but upon the charac-
ters of races of men, was pointed
out as clearly and sagaciously as it
has been since by Montesquieu, in his
"Esprit des Loix", written in 1748; and,
with less originality, in our own times, by
Michelet, Guyot, and Buckle. Philo-
ton ~~was~~ ^{and Plutarch} Diocles also wrote early hygienic treatises.

Positive measures of public hygiene
were instituted, perhaps, first, by Acron
of Crotona, of the school of Pythagoras;
~~and by him~~ who is said to have dissipated
the cause of a plague at Athens, by
fires burned in the streets. Empedocles,
afterwards, found it possible to destroy or
impede the action of Malaria, in one ^{instance} ~~instance~~
by draining a swamp, and in another by
building a high wall to protect an exposed
town. Herodotus was so famous for his

application of gymnastics and regim^{en} (11
-men to the improvement of health, that
Plato accused him of doing an ill
service to the State; by keeping alive
people who ought to die, because,
being valetudinarians and below par,
they cost more than they were worth in
the community.

Rome shewed ^{her} appreciation of
Sanitary art, by extensive drainage of
the base of the hills on which the city
was built; by the magnificent sewer,
Cloaca Maxima, of which a part is yet
left, the oldest ruin of Europe, — 13 feet
in diameter at the outlet; by the ^{great} aque-
-ducts, and by suburban interments, whose
number is attested all along the Appian
way; and by the appointment of Ediles,
officers whose duty was to inspect and

The purpose of this institution was (13
the exclusion of the Egyptian plague
from Italy. The name was ^{derived} from quaranta,
forty, the term of days prescribed for
the detention of suspected vessels ^{on arrival} at or
^{near} Port, — the time probably following one of
the mosaic periods of purification. I will
give you here only a few dates, for I fear
I am getting rather dry on this histor-
ical theme — while able to make it but
an outline.

Florence had the first beginning of
quarantine, about 1348. Then ~~Italy~~ Venice,
& Sardinia; and the other countries, afterwards, of
Europe. The earliest lazaretto dated about
1453. Regular quarantine was established in
England in 1710. In 1700, William Penn, the
founder of our State and City, ~~had~~ enacted
a quarantine law in Philadelphia.

Although the utility of quarantine for

(13)

the purpose of this institution was
the education of the African people
and that the name was given to
it at the time of its foundation
the intention of supporting it
was that the two parties should
the African people of the
you are now only a few days from
I am getting on the way in the
and there - while I am at it
in writing.
Thomas had the first copy of
the volume, about 1848. The
volume; and the other countries of
Europe. The earliest documents
1423. Paper documents are available
beginning in 1710. In 1700, William Penn
for his son that and other
the volume is in the
the volume.

any purpose is now warmly dis- (14)
puted by some, and its range of availability
and proper mode of management
obviously needing very different limitations,
at all events, from those of the
middle ages, its existence has been a
cardinal fact in the history of Sanitary
Science. It is to be hoped that our own
day will witness the final settlement of
all questions concerning it, and the bringing
into harmony the now conflicting opinions of
Medical men, and, with the ^{real} facts, ^{the} ^{arrangement of} interests
of commerce, and ^{the} popular understanding
of communities.

Hygiene
Including rightfully under Hygiene
all measures of "preventive medicine," - we may
rank the introduction of vaccination, by Dr
Edward Jenner, in 1798, as its most signal tri-
-umph. Nothing in all the records of our profession, not
even the discovery of the power of cinchona in the cure
of malarial disease, excels this in value to mankind.
A few words now upon the literature of Malarial Hygiene.

* See West on Diseases of Children - p. 612, note.

Locke, the philosopher, wrote on Physical Education, but it is to France, in our own century, that we must ascribe the credit of the establishment of a definite science

of "Hygiène" — the word itself is French.

I shall not ~~name~~ ^{enumerate} ~~you~~ ^{many} names; but those of Fourtelle, Vallé, Du Chatelet, ^{Killering, Todré, Calogris,} Tardieu, ^{Boulin,} Levy, ~~and~~ Becquere ^{& Molard} must not be passed by here.

Personal Hygiène was many years ago written upon in ^{Great Britain} England, by Combe and others; climatology, by Johnson, Martin, and Johnston; Public Hygiène has had its later lights there in Chadwick, Southwood Smith, ^{Saunders, Cameron, Macpherson, Wilson, and Florence Nightingale,} ~~and~~ Letheby ~~and~~ Greenbow. On the continent of Europe, outside of France, there have been, most noted as Hygiénists, Quetelet, ^{Milchrey} Friedlander, Casper ~~and~~ Mufeland. Sanitary ~~and~~ topics have now been, in Great Britain, favorite ones with all highly educated men. Their Social Science Association and Epidemiological Society have accomplished a great deal of good work.

Boerhaave and Cullen incidentally taught Hygiène

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most English women

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In our country, this department of science has not been altogether neglected. ^{after Dr Rush,} One of the earliest and best writers upon it, ^{here was} ~~has been~~ our ^{late} distinguished fellow citizen, Dr John Bell. ^{Another was the able and learned Professor Dunglison.} ~~of Philadelphia.~~ An excellent Treatise especially upon Military Hygiene was written during the late war by Surgeon-General Hammond; ^{and one on Mental Hygiene by the eminent Dr. Ray, not long after} Besides, we have Drs Jarvis of Boston, ^{and Curtis} Snow of Providence, ~~Rhode Island,~~ ^{Stephen Smith} C. Harris, and Ericson of New York, Barton of New Orleans, and, far from ~~last~~ the least, ^{distinguished} ~~my friend~~ Dr Jewell of Philadelphia; the founder of the first American Sanitary Convention, ~~and~~ and well known for ^{many years} valuable sanitary labors.

Our science is, now, the rising science of the day. To it, in Europe, several well conducted periodicals - the Annales De Hygiene the oldest and best, ^{chiefly} are ~~devoted~~ ^{devoted} chiefly to it. At

Paris, public professorships of 17
Hygiene have been in existence for many
years. In Great Britain there are now
two at least;—that of Prof Parkes
in the Army Medical School at Netley,
England, — and of Prof Mapother in the
Irish Royal College of Surgeons, Dublin.
In the United States, while the subject
has received some partial attention during
courses upon other branches, — I am not
aware of any definite public course of
instruction expressly upon ^{it, except a short course at Harvard} ~~any~~ ^{College} of any
regular Collegiate Professorship of Hygiene,
until it was ~~made~~ ^{the curriculum} made a part of the
plan of enlargement of this University by
the munificent endowment of Professor Wood;
~~the advantages of which we are now proceeding to enter upon.~~
~~I~~ ~~feel, then, gentlemen, that the~~
~~responsibility I bear here is a somewhat heavy~~
~~one.~~ ~~On this, other results of Hygiene —~~ ~~divine, mortality —~~ ~~increased length of life —~~

1847

(18)

But, the same reason, - that ^{this} ~~my~~ course
is the first of its kind here, - gives ~~some~~
good ^{ground} ~~claim~~ for indulgence, -
^{asking} for lenient allowance for any deficiencies,
^{while, thus, there are} ~~mine, - because~~ ~~there are~~ no precedents
to guide ~~me~~ ^{us}, - ^{there is} no routine to follow;
I must depend upon your kind consideration
in this.

But, I have confidence in the
interest of ^{our} ~~my~~ subject; as well as in its
importance. As to the latter, let me add ~~yet~~
a few words.

In France, in 1772, the annual pro-
portion of deaths was 1 in 25; in 1845-6, 1 in
45. The mean duration of human life in the
same country was in 1806, 28th years: at present,
33.6(3) years. In ~~London~~ ^{England}, in 1685, not a sickly
year, one in twenty of the inhabitants died; now it
is but about one in forty. Macaulay estimated

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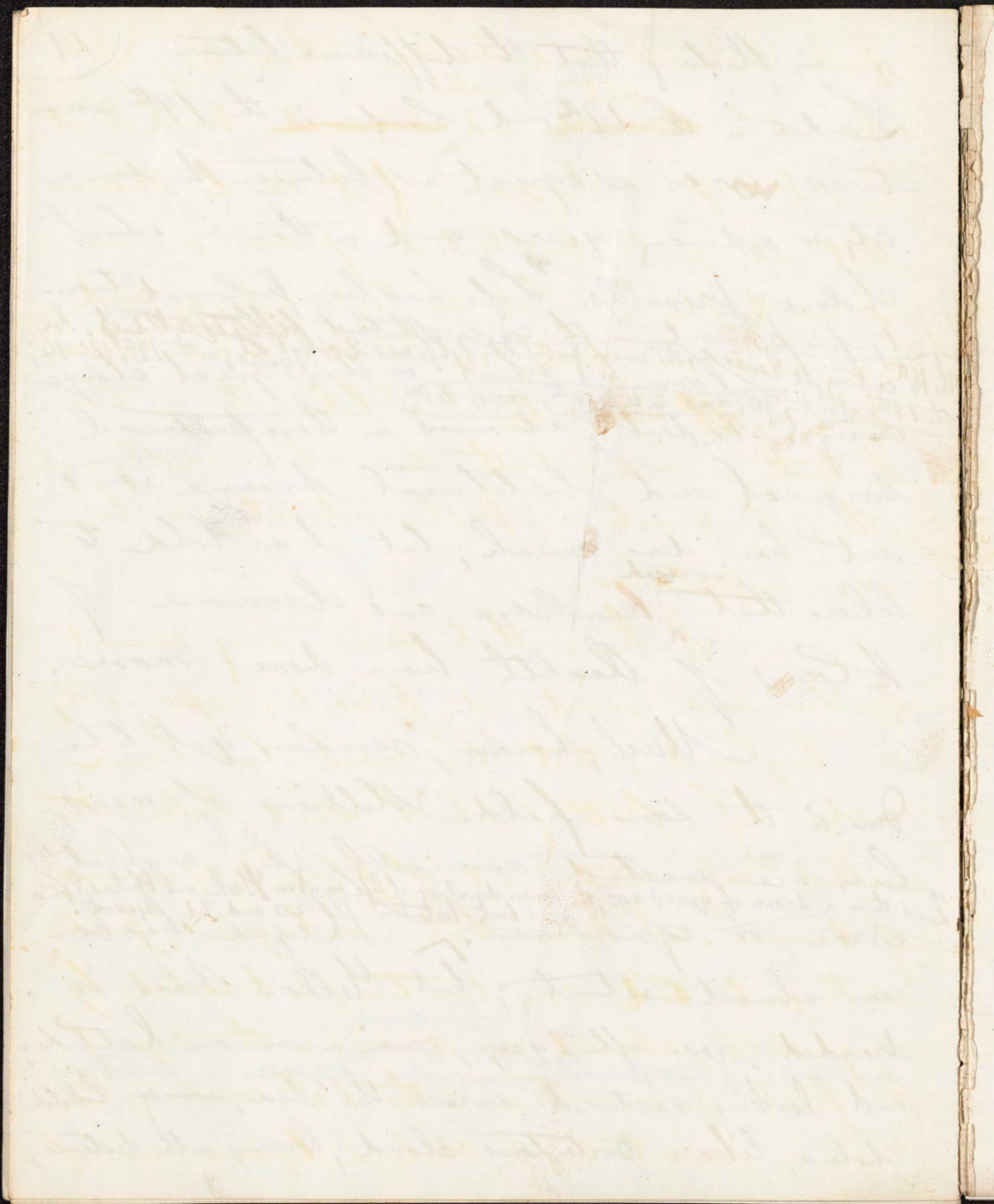
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2

in his History that the difference between 19
London in the 17th and London in the 19th cen-
turies ~~was~~ is as great as between the same
city in ordinary years and in those in which
cholera prevails. Life has been prolonged twen-
ty-five percent in the case of the last fifty years. In
the 16th century, at Geneva, the mean probability of life was 84.9 years; in the 17th, 13 to 14;
the 18th, about 30; and in the 19th, 40 to 45. ~~What is this great change~~
owing? No doubt, advances in therapeutical,

surgical and obstetrical science and
art have done much; but I am bold to
believe that ^{increased} knowledge and observation of
the causes of health have done more.

Much, however, remains yet to be
done in the same field. Millions of men's
lives are wasted annually by neglect.
Less than a score of years ago, the mean duration of life in New York and Philadelphia
~~error, or ignorance of~~ ^{was but between 20 and 21 years.} ~~Plague~~ has be-
come almost extinct; but Mellow Fever is
dreaded, year after year, ^{almost} even in our own latitude;
where, indeed, it has prevailed, not very long since; ^{sometimes}
and, looking eastward across the sea, — behold
cholera, like a portentous cloud, looming in the distance,



full of death and terror. These, too, (20
have to be ^{met} ~~dealt~~ and ^{averted} ~~conquered~~. Will it not
be a triumph of hygiene, if it can be shown
that all great pestilential epidemics are
preventable? That no Yellow fever, need
ever visit our ports, no Cholera ever cause
panic in ~~the~~ our cities? I believe this to be
the truth, — and a truth than which hardly any
other, of private or public interest, can have
more importance.

I know that some very eminent
Sanitarious insist at present, especially
in England, that too much has been
made of filth (which Lord Palmerston
called "only matter out of place") as a cause
of disease. I know that contagion, positive,
contingent ~~and~~ constructive, is dreaded by
many still, almost as it was in the days of
the first quarantine of the 14th century. Con-
tagion is asserted of cholera, by some, even, of

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high medical authority, And so ^{too} of (21)
Yellow Fever.

It will be a part of my duty, during the progress of these lectures, briefly but carefully to examine these questions; as bearing upon prophylactic measures, for individuals and communities. I hope to be able to show you that ^{if not all} most of the facts can be explained in harmony with the best humanitarian interests; and, hopefully for the cause of progress, in commerce and social intercourse among mankind.

We shall never be able to drive disease ~~off~~ ^{from} the earth. Not only the poor, but the sick, "will we have always with us." Man's life will never again be prolonged beyond the century. Enough, if he could be made to secure, as a mean, his three-score years and ten. Enough, if from

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those years were taken, by ^{right} ~~wise~~ self-management, of the "ills that flesh is heir to,"—all but those which a wise Providence would allot to us, without their being ^{multiplied} ~~begetting~~ by our own ignorance or fault. (22)

The plan of the Course of Lectures, of which this is the first, will be based upon what appears to me the most natural classification of the topics of Sanitary Science. It is divisible, first, into Personal, Domestic and Public Hygiene; although the second of these is hardly separable by distinct limitations from the others. Then, Personal Hygiene may be either Common, Female, or Infantile. Common personal Hygiene will be taken up in ~~the order~~ ^{connection} chiefly ~~with~~ the physiological functions; (23)

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I have been thinking of you
very much lately and wondering
how you are getting on.
I hope you are well and happy.
I have been very busy lately
but I have managed to find
some time to write to you.
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(23)

as ^{those} of Digestion and Food, — Respiration
and the Air, Circulation of the Blood, —
the Muscular System — and the rest; not
forgetting or omitting Mental Hygiene.
~~After~~ these, ^{will be added} Etiology, or
the study of the ^{principal} Causes of Disease; and
the prominent facts ~~and~~ ~~of~~
Vital Statistics: with remarks, ^{if time permits, it to us,} finally, upon the Hygiene of the Sick-room.

Public Hygiene must embrace
the two Departments of Internal Preventive
or Sanitary Police, — and External Exclu-
sive Quarantine; besides the superaddition,
under exceptional circumstances, of Mili-
tary and Naval, to Civil Hygiene. The
principles which apply to all of these are
essentially identical. It will be as much
as I can hope to do, in our short course,
to propound and explain these essential
principles, with such ^{exemplifications} ~~illustrations~~ as are
most clear, practically available, and important.

I am, gentlemen, as you see,
strongly possessed of a conviction of the
great importance of our subject within course
of lectures. One disadvantage, however, it
suffers — affects the attractiveness of class
instruction upon it. That is the difficulty, I may say,
the impossibility, I find ~~the~~ means and materials for
~~demonstrative~~ illustrations for Botany,
Comp. and Comp. & Soc. Comp., Mineralogy, Zoology,
& Toxicology, — all have advantage over it here.
Whatever illustration might, in a popular course
elsewhere, be brought in from the domain of physics
chemistry, &c. — have been already amply fore-
stalled in your domestic instruction here.
But, in truth, hygienic illustrations are
enough to — — — — —

with

In attempting to do this with you,
Gentlemen, I go, as I have already said,
as a Lecturer, upon almost untrodden
ground; - or, at least, as a path-finder.
Our speed cannot, therefore, be great;
nor our ~~own~~ going a luxurious progress.
Rather, with coats off, and hammer and
pick in hand, we go together as explorers,
like our ~~very~~ ^{the Professor of} friend ~~and~~ geologist,
~~whose name you heard of this morning~~
in one of his trips among the Rocky Moun-
tains; ^{account of which he will hereafter interest you.}
If gold is not to be found
in this tour, nor other ponderable treasure,
I trust that we shall gain what is ^{even} more
in worth; - some ^{advancement in our} knowledge of the means
of preserving the best earthly gift of
Providence to man, - his bodily and
mental health.

~~The subject to be entered upon in my
second lecture will be the Hygiene of
Alimentation, of Food, Drink, and Digestion.~~

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Before closing, — as I have
made ^{now} a sufficiently bold assertion of the im-
portance of my own branch of instruction,
I may be pardoned for adding, as this
is the last of ~~the~~ ^{our} introductory lectures, of
the Auxiliary Course of the University, — a
few words in further advocacy of the general
plan of that course.

My colleague, in the last hour,
has paid a fitting tribute to the noble
generosity of the founder of this enterprise;
by which scientific teaching, outside of ~~the~~
strictly medical subjects, is placed within
the reach of every University Student. Are
we not ready, all of us, to acknowledge also
its wisdom?

There ^{may be} ~~are~~ those who will suggest,
that more immediate adaptation to the wants

of the medical student would have (26
been found, in courses upon subjects
connected directly with their practical
studies; departments of special medicine, or
surgery, minor or collateral.

But, reflection will show very
strong reason to question such a preference.
Because those minor and collateral or
special subjects are nearly connected with
practical medicine ^{or} surgery, ~~or~~ because they
urge themselves upon the needs of the
advanced student, graduate and practitioner,
they are the more likely to take care of them-
selves. ^{They will be taught, and are taught, in various ways.}
Scientific studies are not so, and
thus, more ^{than the others,} require fostering.

I believe that I can add no weight
to the strong and eloquent ~~arguments~~ ^{statements} you
heard yesterday, of the claims of Natural
Science upon the attention of the Medical Scholar

and practitioner. I can only use (27
other words to echo them. But, what
does our title, "doctor," mean? Strictly,
teacher, - or master; - or at least, doctus,
learned. Not medicine-man merely, - not
surgeon merely, - but learned, accomplished,
scientifically trained and equipped man.
And such the medical man ought to be.
It must be confessed that in this we
are behind most nations of the civilized
world; I mean, in the extent of the requirements
of our medical education. Our profession
nevertheless compares favorably, in intelligence
and skill, with that of other lands. It has
contributed a very fair proportion of able
labors^{or} to the fields of general science. But,
^{while} doing so, it ought to be consistent, in ~~its~~
^{aiming} to make such contributions more facile
to coming generations. And, with such advan-
tages, the scientific status and practical strength

at present. I can only say
other words to add them. But what
has our little "doctor" seen? Alas!
Cancer, in nature, is a last, fatal,
disease. It is not a disease, but a
condition of the body, a result of
various causes, and it is not
the least a confession that in the
very latest most modern of the
with all means, in the extent of the
of our medical education. Our
various causes, however, in relation
and shall not forget the cause. It is
attributed to very few factors of all
belong to the field of general disease. But
being so, it ought to be considered in the
and to make such conditions more
is coming. I am not sure. But I think
that, the scientific study of the

of the typical American physician must be elevated greatly.

Is any knowledge useless to us?

All truth being cosmic, the subtle affinities of facts, sometimes, on their discovery, astonish us. Who could have imagined, before hand, that, as our Professor of Botany has told us, a ~~various~~ certain kind of violet blooming on the soil of a place, is a sure sign that zinc is underneath? What two things might have been supposed to be farther apart, than the growth of a tender flower and the fixation of metallic ores in the earth? Or, what farther apart, until the old story of the divining rod was hardly more wonderful, than the mystic link was caught, - than the chemical reactions of sulphuric acid and alcohol, and the anesthetic conquest over human pain? Give good hospitality, then, not alone to all men, but to all truths; for thereby

Some have entertained angels
unawares.

The valuation, among men, of the
truths of Natural Science grows greater
every year. Classical studies are not
any longer the humanities; they are losing
almost too much in common estimation.
I would not praise them less, though
Science more. It is expected, now, that
~~a~~ fully educated man should know some-
thing of science.

But, you may say again, this
prospect is appalling. Seven branches al-
-ready, each loaded with facts to ^{be} learned, as
^{thickly as} a Himalayan rhododendron is with flower-
-petals, or a Ceylon palm-tree with nuts, -
& yet you would add more! Listen a moment,
however. Gather from these other trees by the

have been attended to
unimpaired.
The author's company was of the
truth of which I have been
every year. I have been
my paper the same, but the
about the same in common estimation.
I would not force them, but
I have more. It is expected, and that
as I have been more than
the of science.
But, you may say again, this
subject is appealing. I have been at
and, and I have not yet found
a single person who has not
-falsely, or a copy of the
we are not with more. I have
known. But for the sake of the

to which we now invite you,
way-side some of their stems, leaves, (30
and fruits, and see what they are
worth. If from them you can make
instruments of use in preparing what
you were collecting before; baskets to
keep and convey them in; cords to bind them,
or other implements to make them more a-
vailable, - you will find therein, even, an
economy of labor.

It is true, we cannot learn
everything. Sometimes it is natural to be
overtaken by a despair of knowledge.
Aristotle did not know every thing, ~~and~~
^{nor did Whewell,}
Linnæus did not, Agassiz does not;
no one can. Enough to know a little well;
to know what we need, and to be always
learning more; and to know how to use what
we have acquired.

But, there are two kinds of
use for knowledge, - as there are two great

uses of food. You know ^{that the} (31)
Physiologists classify the ^{objects} ~~act~~ of
alimentation, as furnishing, 1st, food for
tissue, 2nd, food for force. Some
things ^{which} we consume are assimilated and
converted into actual ~~substance~~ solid sub-
stance, bone, muscle, nerve, brain. Others
are burned off ~~in~~ in the blood. But
are these wasted? No, indeed. They give
much to the heat, the muscle power, the
nerve-force, and vital energy. We could
not do without them.

So, too, we gain much from those
facts of knowledge whose details we
suppose to be lost when we have forgotten
them. But, some have been assimilated,
their essence kept and formed into the
substance and tissue of our mental
nature, — and others, more rapidly passing

uses of foot. The term the
Physicists chiefly, the
character, as formed, the foot for
these, and foot for force. The
thigh, the condyles are articulated and
counted as external. The bones of the
hand, bone, muscle, nerve, brain. Others
are bound off from the foot, but
are there united? No, indeed. They give
motion to the foot, the ankle bone, the
navel-fore, and vital energy. The only
not to exhibit them.

So, too, the spine must form three
parts of knowledge where details are
supplied to the rest in the body
then, that, bone has been examined,
this occurs right and found out the
while these and these of our world
nature, and others, more useful, persons

through the vital chemistry of (32
thought, produce yet a quantum
of mind-force; — they are not
lost.

Let us then take satisfaction in
anticipating that, hereafter, especially,
it will be known that a graduate
of the Medical Department of the
University is not only a licensed prac-
titioner of medicine, but a medical
scholar; worthy of the name of doctus
or doctor. Let us hope that, with some,
the yet higher aim will be reached,
of being not only scholars but philoso-
phers; ~~— medicine~~ complying with and
illustrating the maxim of the father of
medicine, — "ὁ εὐργός φιλόσοφος ἰατρός."
The philosophic physician is god-like.

And with (Stille's suggestion) allusion to the American Aloe.

~~Rankine found increase of sugar in muscle during tetanization.~~

~~Rankine sends Lactic acid and Creatin to the muscular stimulants & exhaustors — & acute nervous susceptibility. Creatinine is almost without action on muscles & nerves — but is strongly basic.~~

dispose of the "triggers",

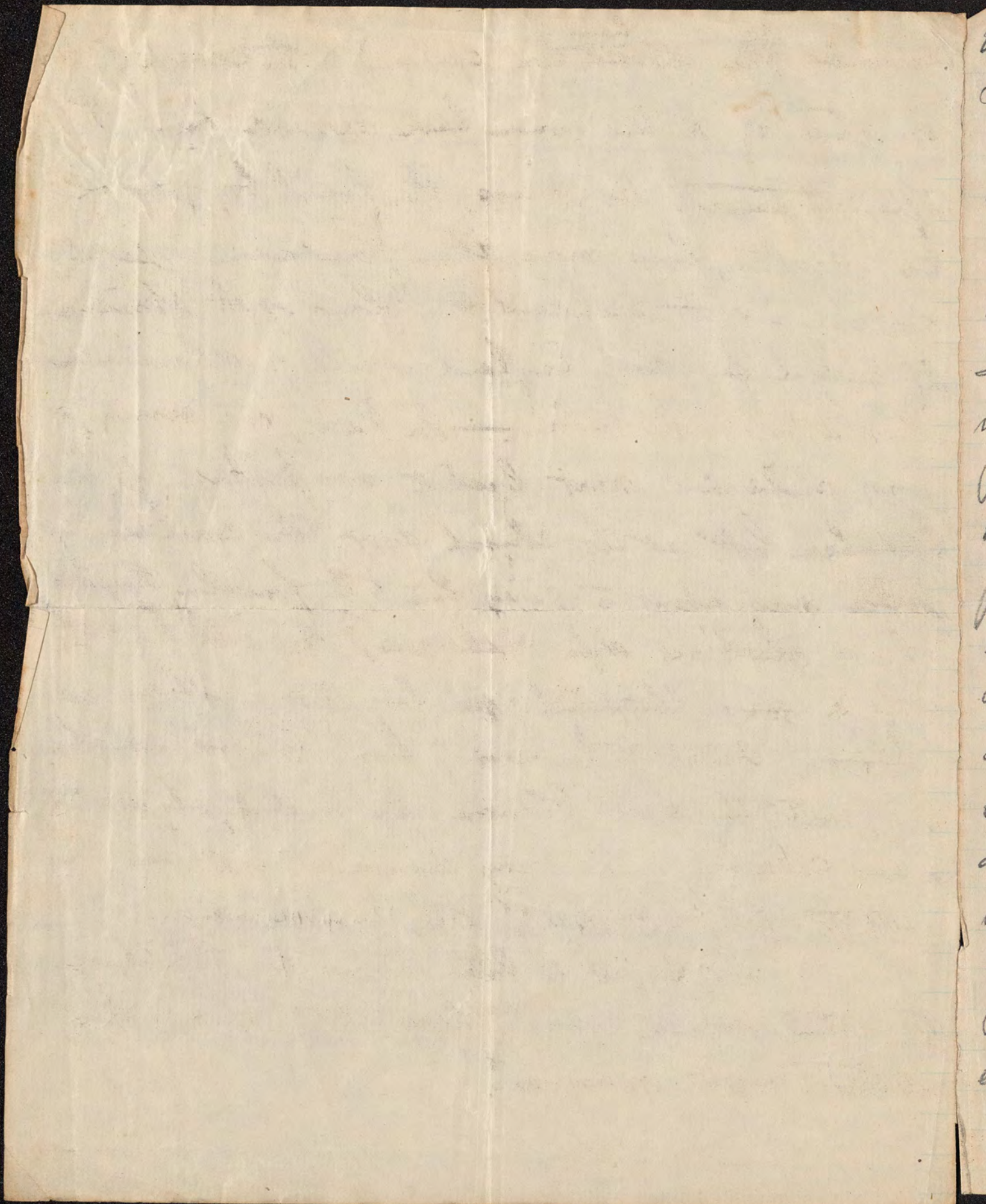
ordered it to be
; which course
tens Rome, the
and was abandoned
child from
upon its pa-
by the Christian
says Tertullian,
"has not slain a

child at birth?" Thus the right of a child to life was ques-
tioned at its very threshold, and he only won it after examina-
tion. ^{Shower of} Children were dipped, like Achilles, into cold water
to harden, or to kill them, as the case might be. Through Chris-
tianity chiefly, we have been led to look upon children in another
light, and, whether weak or strong, their lives are sacred in
the eyes of the Law. ^{only in 1869, and the later French law} Experience has justified this as the
best policy. Great qualities of soul are often hidden in the
faintest child. — One Christmas day a premature posthumous
son was born in England of such an extremely diminutive size,
and apparently of so perishable a frame, that two women
who were sent to Lady Pakenham to bring some medicine
to strengthen him did not expect to find him alive on their return.

Sir James McErigor relates
that in the celebrated campaign
in the Peninsula in which the Duke
of Wellington was so successful,
the decisive battle of Vittoria
owed its result in good part
to the skill and devotion of the
medical officers of the army; by which
4 or 5000 effective men were added
to it, instead of being useless; without
which troops, Sir Jas. says, even the
unrivalled talents of the Duke
could hardly have won the day.

from Dr William Farr (On the Mortality of Children).

The Spartans did not allow fathers to dispose of their children at will. Each was taken to the "tryers", who, if they found it puny & ill-shaped, ordered it to be carried to a sort of charon under Traygetus; which course Socrates, according to Plato, approved. At Athens & Rome, the infant at birth was laid upon the ground, and was abandoned to its fate if the father did not lift his child from another Earth, who was assumed to have claims upon its fragile body. The Romans were reproached by the Christian fathers for their inhumanity. "Which of you," says Tertullian, upbraiding the Emperors in rude eloquence, "has not slain a child at birth?" Thus the right of a child to life was questioned at its very threshold, and he only won it after examination. ^{Shown to you} Children were dipped, like Achilles, into cold water to harden, or to kill them, as the case might be. Though Christianity chiefly, we have been led to look upon children in another light, and, whether weak or strong, their lives are sacred ^{only in 1869} to the eyes of the law. ^{the later French law applied, which required everyone born infant to be carried within a mile of the "mairee"} Experience has justified this as the best policy. Great qualities of soul are often hidden in the frailest child. — One Christmas day a premature posthumous son was born in England of such an extremely diminutive size, and apparently of so perishable a frame, that two women who were sent to Lady Pakenham to bring some medicine to strengthen him did not expect to find him alive on their return.



He would ~~have~~ ^{have} certainly been consigned to the caverns of
Tartarus if the two women had carried him to
Spartan tryers. As it was, the frail boy grew up
into Newton, lived more than fourscore years,
and revealed to mankind the laws of the Universe.
If he had perished, England would not have been
what it is in the world. — In Paris, one evening, a
foundling child in a neat basket was picked up; he
had been left at the church door. The commissary of
police was about to carry him to the foundling hospital,
when a glazier's wife exclaimed, "You will kill the
child in your hospital; give him to me, I have no
children, I will take care of him." She cherished her
boy, until he grew to become D'Alembert, who invented
a new calculus, made many discoveries in physics, and
wrote the grand introduction to the Cyclopaedia.

Let, then, all the little strangers have their chance.
Be, in their respect, "given to hospitality; you may thus
entertain angels unawares."

Foundations of Hygiene
 1. Hygiene, Science - 2. Sanitary Experience.

Domestic Hygiene
 Personal, Domestic - Public

Cause
 Military
 Infants.

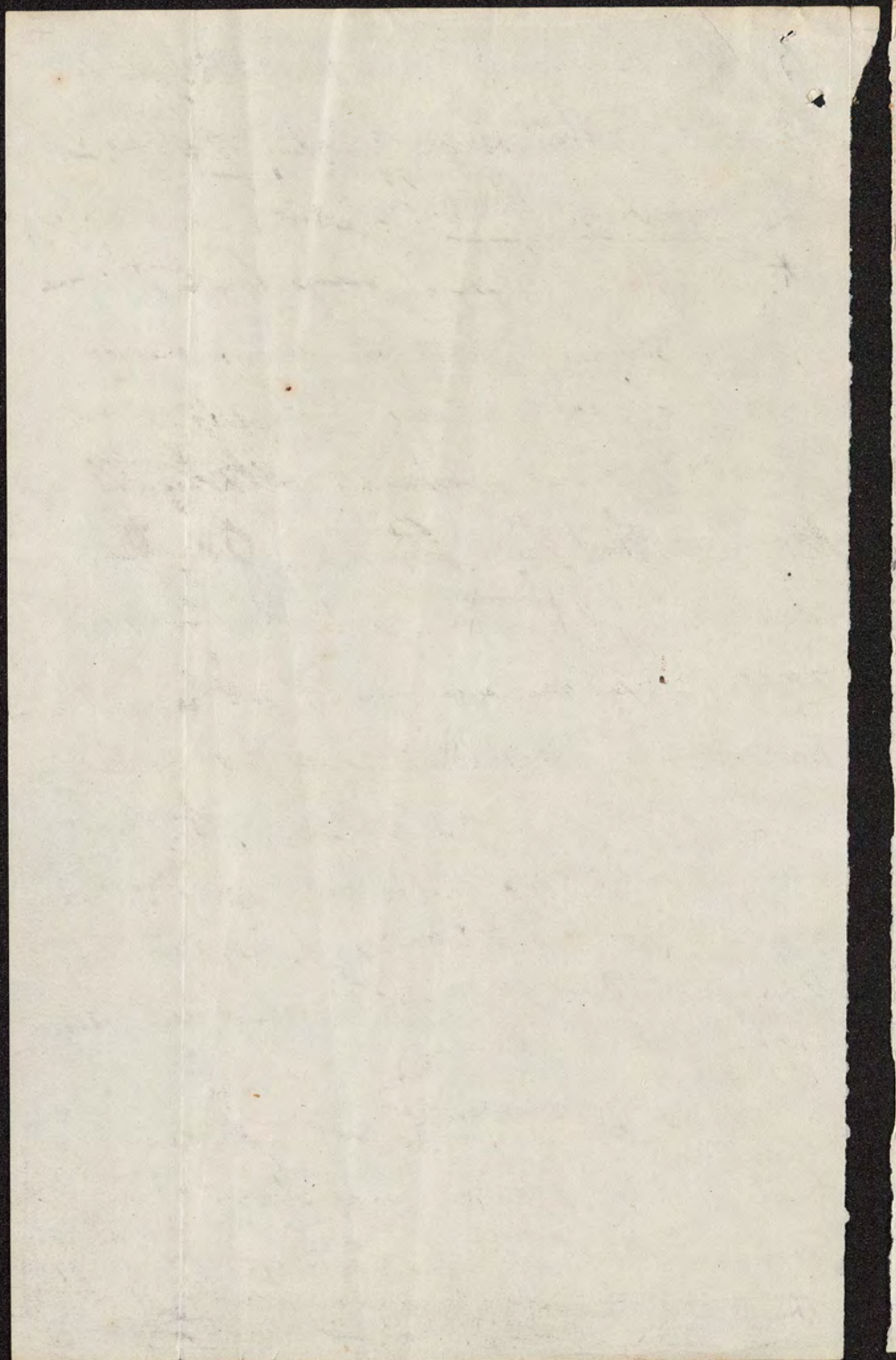
Rights of children

Hygiene is most practical; the physician's patients, - the hygienic self.
 But, when one, from his own position, is able to see of his own
 the hygiene is (Hygiene, or Hygiene, common.
 Hygiene is most practical; the physician's patients, - the hygienic self.

There are great drinkers are of course XIV, by intellect, & by nature
more to arrest intemperance in men,

than all the laws & penalties of
former rulers.

* ^ "The Ancient Greeks worshipped
Bacchus, the god of wine; & in Sicily
we see the image of Drunkenness;
& in many of their statues" (See
also old Egyptian paintings) we
observe representations of most heathen in-
teriors. So great, for a while, were
the evils from intemperance, in Greece,
that some rulers condemned to death
those found intoxicated. Lycurgus
destroyed all the vines of the country,
& made slaves drunk, & exhibited them
in this state, in order to deter youth
from intemperance. The Romans had more
than 200 diff. kinds of intoxicating liquors
& drank them to excess. The ancient
Germans, the former inhabitants of all
the northern countries were greatly addicted



to drunkenness. For centuries, no one
thought of the impropriety of drinking
to excess; the only concern respec-
ting intoxic. Liqu., was, how to pro-
-cure them; & for this purpose they
ranged about like beasts of the
forests, & even invaded Italy to
procure them by force. On the
revival of literature, after the Dark
ages, intemperance in drinking was
exceedingly prevalent; but as men
became more enlightened, they had
recourse to measures calculated to
prevent it. And it is a curious fact
that in the 15th & 16th centuries
Temperance Societies were formed
by the most intelligent & influential
men. 100 years ago there was
much more intemp. in England than
now. The first Temperance Society in this
country dated, I think about 1826 - (48 years ago)

Yeare, 1832
first established in England named

[The page contains extremely faint, illegible handwriting, likely bleed-through from the reverse side. The text is mirrored and cannot be transcribed accurately.]